



## NOAA In Your State

# Texas

***NOAA is an agency that enriches life through science. Our reach goes from the surface of the sun to the depths of the ocean floor as we work to keep citizens informed of the changing environment around them. From daily weather forecasts, severe storm warnings, and climate monitoring to fisheries management, coastal restoration and supporting marine commerce, NOAA's products and services support economic vitality and affect more than one-third of America's gross domestic product. NOAA's dedicated scientists use cutting-edge research and high-tech instrumentation to provide citizens, planners, emergency managers and other decision makers with reliable information they need when they need it.***

***The following is a summary of NOAA facilities, staff, programs, or activities based in, or focused on, your state or territory: Starting with highlights, then by [congressional districts and cities or towns](#), and then [statewide programs](#).***

### **Highlights of NOAA in Texas**

<a href="#">National Weather Service - Southern Region Headquarters</a>	Fort Worth	TX-12
<a href="#">National Environmental Satellite, Data, and Information Service (NESDIS) - Southern Regional Climate Services Director</a>	Fort Worth	TX-12
<a href="#">National Marine Fisheries Service - Galveston Laboratory</a>	Galveston	TX-14
<a href="#">National Ocean Service - Flower Garden Banks National Marine Sanctuary</a>	Galveston	TX-14
<a href="#">National Ocean Service (NOS) - Mission Aransas National Estuarine Research Reserve</a>	Port Aransas	TX-27

The state of Texas is home to nine Weather Forecast Offices, six Science on a Sphere displays, seafood inspection and law enforcement programs, four Physical Oceanographic Real-Time Systems (PORTS®), Texas Sea Grant, and multiple observing platforms.

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### **Weather Forecast Offices**

Midland/Odessa	TX-11
San Angelo	TX-19
Dallas/Fort Worth	TX-12
Amarillo	TX-13
Houston/Galveston	TX-14
Austin/San Antonio	TX-15
Lubbock	TX-19
Rockport/Corpus Christi	TX-27
Brownsville	TX-34

**National Weather Service (NWS) Weather Forecast Offices (WFO)** are staffed 24/7/365 and provide weather, water, and climate forecasts and warnings to residents of Texas. There are 122 [WFOs nationwide](#) of which nine are in Texas. Highly trained forecasters issue warnings and forecasts for weather events, including severe thunderstorms, tornadoes, hurricanes, winter storms, floods, and heat waves to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including wireless emergency alerts, social media, [weather.gov](#), and NOAA Weather Radio All Hazards. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs that strengthen working relationships with local partners in emergency management, government, the media and academic communities. Forecasters provide Impact-based Decision Support Services (IDSS), both remotely and on-site during critical emergencies such as wildfires, floods, chemical spills, and major recovery efforts. To gather data for forecasting and other purposes, NWS WFO staff monitor, maintain and use Automated Surface Observing Stations and Doppler Weather Radar. In addition to the WFOs, NWS operates specialized national prediction [centers](#) and regional headquarters throughout the U.S. for a total of 168 operational units. Over 85% of NWS' workforce is in the field. For current Texas weather, visit [www.weather.gov](#) and, on the national map, click on the relevant county or district.

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### **Science On a Sphere®**

Sugarland	TX-9
Midland	TX-11
McAllen	TX-15
Rockport	TX-27
Dallas	TX-30
Ft. Worth	TX-33

**Science On a Sphere (SOS)** is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated

images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain in a way that is simultaneously intuitive and captivating what are sometimes complex environmental processes. They are located at Houston Museum of Natural Science at Sugarland, International Museum of Art and Science in McAllen, the Bay Education Center (Rockport), and Earth Day Texas.

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#### **TX- 5**

##### ***Palestine***

#### **Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

#### **TX-6**

##### ***Houston***

#### **National Marine Fisheries Service (NMFS) - NOAA Fisheries Seafood [Inspection Office](#)**

NOAA's Seafood Inspection Program conducts a voluntary inspection program for fishery products on a fee-for-service basis. The office offers a wide range of services to the area's fishermen and fish processors including process and product inspection, product grading, lot inspection, laboratory analysis, and training. All edible foodstuffs, ranging from whole fish to formulated products, as well as fishmeal used for animal foods, are eligible for inspection and certification.

#### **TX-9**

##### ***Sugarland***

#### **Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at the Houston Museum of Natural History](#) – See [Page 2](#) for details**

#### **NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Texas, ELP supports the Houston Museum of Natural Science at Sugarland (Harris), which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages.

#### **TX-11**

##### ***Bronte***

#### **Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

**NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Texas, ELP supports the Museum of the Southwest (Midland), which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages.

**[Midland/Odessa](#)**

**National Weather Service (NWS) - [Weather Forecast Office](#)** – See [Page 2](#) for details

**Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere®](#)** – See [Page 2](#) for details

**[San Angelo](#)**

**National Weather Service (NWS) - [Weather Forecast Office](#)** – See [Page 2](#) for details

**[TX-12](#)**

**[Fort Worth](#)**

**National Weather Service (NWS) - [West Gulf River Forecast Center](#)**

Co-located with the NWS Weather Forecast Office in Dallas/Fort Worth, the NWS West Gulf River Forecast Center (RFC) performs continuous river basin modeling and provides hydrologic forecast and guidance products for rivers and streams in most of Texas and New Mexico. These products include forecasts of river stage and flow, probabilistic river forecasts, reservoir inflow forecasts, gridded precipitation estimates and forecasts, spring flood outlooks, and flash flood and headwater guidance. Some of the RFCs in the western and central U.S. also provide water supply forecasts. RFCs work closely with local, state and federal water management agencies, including the U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, and U.S. Geological Survey, to provide water and flood information for critical decisions (aka Impact-based Decision-Support Services or IDSS).

**National Weather Service (NWS) - [Southern Region Headquarters](#)**

The NWS Southern Region Headquarters is the administrative and support center for 32 NWS Weather Forecast Offices, seven aviation-focused NWS Center Weather Service Units, and four NWS River Forecast Centers located in 10 states (Texas, New Mexico, Oklahoma, Arkansas, Louisiana, Mississippi, Tennessee, Alabama, Georgia and Florida) and Puerto Rico. Services provided by a regional headquarters to local NWS offices within the region include scientific support and development, program management and guidance, field support for new program implementation, budget support, and employee recruitment and assistance. The headquarters is also the home office of the Southern Region Director, who oversees the management and administration of the NWS entities listed above, as well as other region-level officials and program managers.

**National Environmental Satellite, Data, and Information Service (NESDIS) - [National Centers for Environmental Information](#) - [Southern Regional Climate Services Director](#)**

NOAA's six Regional Climate Services Directors (RCSDs), which are part of NCEI, support the development and delivery of a wide range of place-based climate science and information products and services to help people make informed decisions. RCSDs regularly communicate with stakeholders about climate information needs, and help build and strengthen active partner networks with public and private constituents. They play a primary role in integrating the work within NOAA and among its partners engaged in developing and delivering climate services at the regional level. These

efforts serve to increase the value of climate information to users and support more efficient, cost-effective delivery of products and services.

**National Weather Service (NWS) - [Weather Forecast Office](#)** – See [Page 2](#) for details

**Office of the Chief Information Officer (OCIO) - [N-Wave Enterprise Network](#)**

Dallas-Fort Worth, TX, is one of five NOAA Trusted Internet Connection Access Points (TICAPs) which monitors the connection of NOAA networks with the greater Internet. This is required by OMB policy to ensure secure communication from NOAA IT systems to untrusted networks. TICAPs are NOAA's first line of defense for protecting NOAA's mission from external cyber-attacks. The information the TICAPs provide is invaluable for determining the nature and scope of cyber threats. NOAA is also able to offer this as a service to other government agencies, eliminating the requirement for them to build and manage their own TICAPs.

**Workforce Management Office (WFMO) - [Fort Worth Office](#)**

The Workforce Management Office in Fort Worth provides nationwide consultative services with respect to talent acquisition and strategic workforce planning to the National Weather Service. The HR Business Partners and HR Business Advisors ensure consistency of service, compliance, best practices and knowledge sharing among the team members. The Office manages the workload and resources to account for peak demand, vacancies and talent acquisitions strategies to meet new mission requirements, and escalates these and other issues as necessary to leadership.

#### **[TX-13](#)**

##### **[Amarillo](#)**

**National Weather Service (NWS) - [Weather Forecast Office](#)** – See [Page 2](#) for details

#### **[Edinburgh](#)**

**Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

#### **[TX-14](#)**

##### **[Galveston](#)**

**National Marine Fisheries Service (NMFS) - [Galveston Laboratory](#)**

The Galveston Laboratory is located on the site of Fort Crockett, a NOAA Heritage Asset, one block from the Gulf of Mexico on Galveston Island, Texas. Research at the Laboratory focuses on fisheries management (data collection and analysis pertaining to shrimp and reef fish fisheries), fishery ecology (coastal wetland ecology, coral reef ecology, and habitat restoration science), forecasts of the Texas and Louisiana shrimp fishery, and evaluation of shrimp fishery impacts on other fisheries and protected species. The fishery observer programs, originally developed to provide an economic evaluation of turtle excluder devices in shrimp trawls, currently encompasses shrimp trawl and reef fish bottom longline and vertical line vessels. A state trip ticket collection system, supported by a federal port agent data collection system established in 1960, provides the fishery dependent data needed for the shrimp stock assessments done at the Laboratory. Additionally, the Galveston Laboratory provides observers to monitor the removal of oil-related platforms in the Gulf of Mexico to ensure marine mammals and sea turtles are protected and the estimate the number of fish killed.

**National Marine Fisheries Service (NMFS) - [Southeast Regional Office, Habitat Conservation Division Field Office](#)**

The Southeast Regional Office has the Galveston Field Office which is located in the Galveston Laboratory of NMFS Southeast Fisheries Science Center. This Office is responsible for overseeing NMFS's habitat protection programs in the Gulf of Mexico and implements NMFS's habitat protection programs in Texas and Alabama and in the adjacent waters of the Gulf of Mexico. In addition to conducting mandated essential fish habitat consultations associated with extensive energy and coastal development activities, the Office participates in state and regional habitat planning groups focusing on technical assistance and streamlining Gulf environmental compliance efforts for proposed Gulf restoration projects, and participates in the planning processes for major federal water development projects in Texas and Alabama, such as port expansions and flood damage control structures.

**National Marine Fisheries Service (NMFS) - [Office of Law Enforcement](#)**

NOAA's Office of Law Enforcement is the only conservation enforcement program (Federal or State) that is exclusively dedicated to Federal fisheries and marine resource enforcement. Its mission is to protect global marine resources by enforcing domestic laws and international treaties and obligations dedicated to protecting wildlife and their natural habitat. Our special agents and enforcement officers ensure compliance with these laws and take enforcement action if there are violations. Additionally, the Cooperative Enforcement Program allows NOAA the ability to leverage the resources and assistance of 27 coastal states and U.S. territorial marine conservation law enforcement agencies in direct support of the Federal enforcement mission. Effective fisheries law enforcement is critical to creating a level playing field for U.S. fishermen and enabling sustainable fisheries to support vibrant coastal communities. The Galveston field office is part of the Office of Law Enforcement's Southeast Division.

**National Ocean Service (NOS) - [Flower Garden Banks National Marine Sanctuary](#)**

Flower Garden Banks National Marine Sanctuary lies 70 to 115 miles off the coast of Texas and Louisiana in the Gulf of Mexico. It contains the northernmost coral reefs on the continental shelf of North America, sitting atop salt domes 55 to 450 feet below the water's surface. Unique in this part of the Gulf, the multi-colored corals, plants and sponges at the Flower Garden Banks sanctuary resemble reef development typically found over 400 miles due south in Mexico's Gulf of Campeche or 790 miles southeast in the Florida Keys. A popular destination for scuba divers, commercial and sport fishers, the reefs serve as a regional reservoir of shallow water Caribbean reef fishes and invertebrates. The Gardens are significant habitat for lobster, snapper, grouper, manta rays, loggerhead and hawksbill turtles and whale sharks. They are managed out of Galveston, Texas where a variety of research and education programs, many through partnerships, are key to maintaining these valuable resources.

Staff continue to monitor the health of the reefs, invasive lionfish continue to be the subject of a strong research/education focus at the sanctuary. Another species, [Regal Demoiselle \(Neopomacentrus cyanomos\)](#), has been identified as a recent invader.

**NOAA Commissioned Officer Corps (NOAA Corps) - [Marine Operations Coordinator](#)**

The NOAA Commissioned Officer Corps stations an officer with the National Ocean Service Flower Garden Banks National Marine Sanctuary in support of scientific operations and conservation efforts within the Sanctuary. This officer manages various administrative and operational duties, including the daily and long-term operation of the Sanctuary's research vessel; scheduling, coordinating, and managing small boat operations, personnel training and qualifications, vessel maintenance and dry dock periods, annual inspections, and other site related activities; and assisting in budget formulation and submission of small boat operations. They directly oversee and track spending of operations, personnel, and maintenance while writing specifications for maintenance and repair period contracts. In addition, they train applicable



personnel on safety equipment, vessel float plans, standard operating procedures, operational risks, and small boat handling, and act as liaison to the U.S. Coast Guard and other local, state, and federal agencies.

**National Ocean Service (NOS) – [“REEF ON THE ROAD” traveling exhibit](#)**

Those unable to visit these remote reefs in person, can interact with Flower Garden Banks National Marine Sanctuary's Reef on the Road traveling exhibit that moves to a new location every six to twelve months.

**National Weather Service (NWS) - [Weather Forecast Office](#)** - See [Page 2](#) for details

**[League City](#)**

**National Marine Fisheries Service (NMFS) - [Office of Law Enforcement](#)**

NOAA's Office of Law Enforcement is the only conservation enforcement program (Federal or State) that is exclusively dedicated to Federal fisheries and marine resource enforcement. Its mission is to protect global marine resources by enforcing domestic laws and international treaties and obligations dedicated to protecting wildlife and their natural habitat. Our special agents and enforcement officers ensure compliance with these laws and take enforcement action if there are violations. Additionally, the Cooperative Enforcement Program allows NOAA the ability to leverage the resources and assistance of 27 coastal states and U.S. territorial marine conservation law enforcement agencies in direct support of the Federal enforcement mission. Effective fisheries law enforcement is critical to creating a level playing field for U.S. fishermen and enabling sustainable fisheries to support vibrant coastal communities. The League City field office is part of the Office of Law Enforcement's Southeast Division.

**[TX-14, 18](#)**

**[Galveston/Houston](#)**

**National Ocean Service (NOS) - [Houston/Galveston PORTS®](#)**

A Physical Oceanographic Real-Time System (PORTS®) is operated cooperatively with the local maritime community in Houston/Galveston Bay at which real-time data are quality-controlled and disseminated to local users for safe and efficient navigation. Real-time data are available for water level from five stations, for tidal currents from three stations and for meteorological data from five locations.

**[TX-15](#)**

**[Austin/San Antonio](#)**

**National Weather Service (NWS) - [Weather Forecast Office](#)** - See [Page 2](#) for details

**[McAllen](#)**

**Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at the International Museum of Art and Science](#)** – See [Page 2](#) for details

**NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Texas, ELP supports the International Museum of Art and Science (Hidalgo), which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages.

**TX-17**

**Moody**

**Office of Oceanic and Atmospheric Research (OAR) - [Tall Tower Carbon Measurements](#)**

NOAA's Earth System Research Laboratory Global Monitoring Laboratory(ESRL/GML) operates trace gas monitoring sites at tall television transmitter towers, and other towers, in eight states, including Texas. The sites were established to extend ESRL/GML's monitoring network into the interior of North America in order to provide data to aid estimation of the net carbon balance of the continent. Variations of trace gases, especially carbon dioxide (CO<sub>2</sub>), are largest near the ground, so existing talltowers are utilized as platforms for in situ and flask sampling for atmospheric trace gases. The tower site in Texas is located near the town of Moody, 20 miles south of Waco. Pinnacle Towers Inc. owns the tower, which charges a nominal fee for use of the facility. ESRL monitors CO<sub>2</sub> concentrations on the tower at several heights, up to 500 meters above the ground, and measures wind speed and direction, temperature, humidity, rainfall, solar radiation and barometric pressure. The Blackland Research and Extension Center of Texas A&M University, located in Temple, has helped maintain the site and collect flask samples since early 2001.

**Office of Oceanic and Atmospheric Research (OAR) - [Halocarbon Measurements](#)**

NOAA's Earth System Research Laboratory Global Monitoring Laboratory(ESRL/GML) operates a sampling network to measure the distribution and trends of the gases most responsible for human-caused depletion of the stratospheric ozone layer. Weekly samples are collected in high-pressure flasks at fixed locations. The air sample flasks are delivered to ESRL/GML, located in Boulder, CO for analysis. Some locations conduct continuous surface measurements on site. Halocarbon measurements help determine the effectiveness of efforts to protect and restore the ozone layer - so it can protect us from the sun's ultraviolet radiation.

**TX-18**

**Houston**

**National Weather Service (NWS) - [Center Weather Service Unit](#)**

Housed in the Federal Aviation Administration's Houston Air Route Traffic Control Center (ARTCC), the NWS Center Weather Service Unit (CWSU) provides aviation forecasts and other weather information to ARTCC personnel for use in directing the safe, smooth flow of aviation traffic in southern Texas, southern Louisiana, southern Mississippi and the southwestern tip of Alabama.

**Office of Oceanic and Atmospheric Research (OAR) - [Ultraviolet Radiation Monitoring Network](#)**

NOAA's Earth System Research Laboratory Laboratory Global Monitoring Laboratory (ESRL/GML) operates an ultraviolet radiation (UV) monitoring network site in Houston (NEUBrew). These measurements are done as part of ESRL's research on the Earth's surface radiation budget. Research efforts are devoted to the extent and cause of observed variations in long-term radiation and meteorological measurements, using satellite observations and climate model calculations. In addition, observations of spectral solar radiation are made for remote sensing of certain atmospheric constituents and spectral solar UV is measured for the investigation of the interaction of ozone and solar radiation. ESRL/GML also provides essential instrument calibration services for national and worldwide partner UV monitoring networks.

**TX-19**

**Lubbock**

**National Weather Service (NWS) - [Weather Forecast Office](#) - See [Page 2](#) for details**



**TX-19, 21, 23**

**Austin, Monahans, Muleshoe, Panther Junction**

**Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

**TX-24**

**Fort Worth**

**National Weather Service (NWS) - [Center Weather Service Unit](#)**

Housed in the Federal Aviation Administration's Dallas/Fort Worth Air Route Traffic Control Center (ARTCC), the NWS Center Weather Service Unit (CWSU) provide aviation forecasts and other weather information to ARTCC personnel for use in directing the safe, smooth flow of aviation traffic in northern and western Texas, southern Oklahoma, southwestern Arkansas, northwestern Louisiana, and the southeastern tip of New Mexico.

**TX-27**

**Rockport, Corpus Christi**

**National Ocean Service (NOS) – [Texas Spatial Reference Center](#)**

Partnering with the National Geodetic Survey (NGS), Texas A&M University - Corpus Christi's Conrad Blucher Institute for Surveying and Science created the Texas Spatial Reference Center (TSRC) in 2005. The mission of TSRC is to conduct basic and applied research contributing to NGS's modernization of the National Spatial Reference System (NSRS). TSRC is a repository for information used by researchers to develop improved understanding of elevation data and geodetic datums in the state of Texas. TSRC establishes accurate positioning and elevations throughout Texas in cooperation with qualified geospatial scientists, professional engineers, and professional land surveyors.

**National Weather Service (NWS) - [Weather Forecast Office](#) - See [Page 2](#) for details**

**National Marine Fisheries Service (NMFS) - [Office of Law Enforcement](#)**

NOAA's Office of Law Enforcement is the only conservation enforcement program (Federal or State) that is exclusively dedicated to Federal fisheries and marine resource enforcement. Its mission is to protect global marine resources by enforcing domestic laws and international treaties and obligations dedicated to protecting wildlife and their natural habitat. Our special agents and enforcement officers ensure compliance with these laws and take enforcement action if there are violations. Additionally, the Cooperative Enforcement Program allows NOAA the ability to leverage the resources and assistance of 27 coastal states and U.S. territorial marine conservation law enforcement agencies in direct support of the Federal enforcement mission. Effective fisheries law enforcement is critical to creating a level playing field for U.S. fishermen and enabling sustainable fisheries to support vibrant coastal communities. The Corpus Christi field office is part of the Office of Law Enforcement's Southeast Division.

**National Ocean Service (NOS) - [Corpus Christi PORTS®](#)**

A Physical Oceanographic Real-Time System (PORTS®) is operated cooperatively with the local maritime community in Corpus Christi at which real-time data are quality-controlled and disseminated to local users for safe and efficient

navigation. Real-time water level (tide) and meteorological data are available at multiple locations, Tidal currents are monitored from several stations. Numerous visibility (fog) observations have also been integrated into this system.

### **Port Aransas**

#### **National Ocean Service (NOS) - [Mission Aransas National Estuarine Research Reserve](#)**

The National Estuarine Research Reserve System is a network of protected areas focused on long-term research, monitoring, stewardship, education, and training. NOAA's Office for Coastal Management provides funding and national guidance, and each site is managed on a daily basis by a lead state agency or university with input from local partners. The 186,189 acre Mission-Aransas Research Reserve was designated in 2006 and is managed by the University of Texas Marine Science Institute. The reserve is a large contiguous complex of wetland, terrestrial, and marine environments and is named for the two river systems that flow into it. Located on the Texas Coastal Bend, 30 miles northeast of Corpus Christi, the reserve is representative of Western Gulf estuaries.

#### **National Ocean Service (NOS) – [Margaret A. Davidson Graduate Fellowship](#)**

The Margaret A. Davidson Graduate Fellowship program funds graduate student research and professional development opportunities within the National Estuarine Research Reserve System. The program supports collaborative research addressing local management challenges that may influence future policy and management strategies. The Davidson Fellow at Mission Aransas National Estuarine Research Reserve will focus their research on acoustic assessment of ecosystem resilience in response to natural and anthropogenic stressors..

#### **Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The US Climate Reference Network (USCRN) is an operationally viable research network of more than 138 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS). ARL/ATDD manage the USCRN in partnership with NOAA's NESDIS/NCEI.

### **Rockport**

**Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at the Bay Education Center](#)** – See [Page 2](#) for details

#### **NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Texas, ELP supports the Bay Education Center (Aransas), which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages. ELP supports the Texas State Aquarium (Nueces) as a member of the Coastal Ecosystem Learning Center (CELC) Network, which is a consortium of 25 aquariums and marine science education centers working together to engage the public in protecting coastal and marine ecosystems.

### **Matagorda**

#### **National Ocean Service (NOS) - [Matagorda Bay PORTS®](#)**

A Physical Oceanographic Real-Time System (PORTS®) is operated cooperatively with the local maritime community around Matagorda Bay at which real-time data are quality-controlled and disseminated to local users for safe and efficient

navigation. Real-time water level data is available at three stations, meteorological data at three locations, and currents from two stations.

#### **TX-32**

##### **Dallas**

**Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere® at Earth Day Texas](#)**– See [Page 2](#) for details.

#### **NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Texas, ELP supports Earth X (Dallas), which has a permanent exhibit featuring NOAA's Science On a Sphere (SOS) and is a member of NOAA's SOS Users Collaborative Network (SOS Network). The SOS Network connects over 150 science education institutions worldwide to the latest NOAA data as part of a focused effort to increase environmental literacy at all ages.

#### **TX-33**

##### **Ft. Worth**

**Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere®](#)** – See [Page 2](#) for details

#### **TX-34**

##### **Brownsville**

**National Weather Service (NWS) - [Weather Forecast Office](#)** - See [Page 2](#) for details

#### **Sinton**

#### **Office of Oceanic and Atmospheric Research (OAR) - [Carbon Cycle Gases and Halocarbons](#)**

NOAA's Earth System Research Laboratory Global Monitoring Laboratory (ESRL/GML) operates a small aircraft-based North American network of sampling sites to measure vertical profiles of important greenhouse gas concentrations. Air is sampled above the surface up to approximately 25,000 feet above sea level using a relatively small, light, and economical automated system developed by ESRL researchers. These air samples are delivered to ESRL/GML in Boulder, Colorado for measurements of CO<sub>2</sub>, CH<sub>4</sub>, and other greenhouse gasses. This data will improve understanding and models of the global carbon cycle. Sampling is conducted bi-weekly. Some air samples from the small aircraft program are also analyzed for halocarbon gases that can destroy the stratospheric ozone layer. Halocarbon measurements help determine the effectiveness of efforts to protect and restore the ozone layer so it can protect us from the sun's ultraviolet radiation.

#### **TX-35**

##### **Austin**

#### **NOAA Office of Education - [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Texas, ELP funded EcoRise (Travis) to build the environmental literacy of children, youth, and adults so they are knowledgeable of the ways in which their community can become more resilient to extreme weather, climate change, and other environmental hazards, and become involved in achieving that resilience. The funded project, in collaboration with the University of Texas at Austin's School of Architecture and the University of Texas Marine Science Institute's National Estuarine Research Reserves System, is building a green building school-to-job pipeline across Texas that will help contribute to a more diverse workforce and help youth develop the knowledge, skills, and confidence to tackle challenges posed by climate change.

Participants are gaining real-world learning experiences and career exposure through school-year field experiences, paid summer internships, and working directly with scientists, including NOAA's experts, civic leaders, and green building professionals. Using scientific evidence, citizen science, and local socio-economic and ecological data, participants will, ultimately, complete their green building projects designed to mitigate and adapt to the environmental hazards facing their communities.

### **TX-36**

#### **La Porte**

#### **National Ocean Service (NOS) - [Sabine Neches PORTS](#)**

A Physical Oceanographic Real-Time System (PORTS®) is operated cooperatively with the local maritime community in Sabine Neches at which real-time data are quality-controlled and disseminated to local users for safe and efficient navigation. Real-time data are available for water level from three stations, for currents from seven stations, for meteorological data from two locations.

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### **Statewide**

#### **National Marine Fisheries Service (NMFS) and National Ocean Service (NOS) - [Damage Assessment, Remediation, and Restoration Program](#)**

NOAA's Damage Assessment, Remediation, and Restoration Program (DARRP) assesses and restores habitat, fisheries, protected species and recreational uses that have been harmed by oil spills, chemical releases, and ship groundings. Working with federal, state, and tribal entities, and responsible parties, we have recovered funding from responsible parties for restoration of critical habitats, fisheries, protected species and recreational uses nationwide. These projects promote recovery of the ecosystem and provide economic benefits from tourism, recreation, green jobs, coastal resiliency, property values and quality of life. In Texas, the Program is currently working to restore natural resources in numerous cases including the Deepwater Horizon oil spill and the Texas City Y hazardous waste site.

#### **National Ocean Service (NOS) – [Regional Geodetic Advisor](#)**

The Regional Geodetic Advisor is a National Ocean Service (NOS) employee that resides in a region and serves as a liaison between the National Geodetic Survey (NGS) and its public, academic and private sector constituents within their assigned region. NGS has a Regional Geodetic Advisor stationed in Corpus Christi, Texas serving the Southern Plains region – Oklahoma and Texas. The Geodetic Advisor provides training, guidance and assistance to constituents managing geospatial activities that are tied to the National Spatial Reference System (NSRS), the framework and coordinate system for all positioning activities in the Nation. The Geodetic Advisor serves as a subject matter expert in geodesy and regional geodetic issues, collaborating internally across NOS and NOAA to ensure that all regional geospatial activities are properly referenced to the NSRS.

#### **National Marine Fisheries Service (NMFS) - [Southeast Regional Office](#) and [Southeast Fisheries Science Center](#)**

NMFS studies, protects and conserves living marine resources to promote healthy, functioning marine ecosystems, afford economic opportunities and enhance the quality of life for the American public. NMFS' Southeast Regional Office (headquartered in Saint Petersburg, FL) and Southeast Fisheries Science Center (headquartered in Miami, FL) are responsible for living marine resources in federal waters of the Gulf of Mexico, South Atlantic, and U.S. Caribbean. Using the authorities provided by the *Magnuson-Stevens Fishery Conservation and Management Act*, *Endangered Species Act*, *Marine Mammal Protection Act* and other federal statutes, the Southeast Regional Office and Southeast Fisheries Science Center partner together to assess and predict the status of fish stocks, marine mammal and sea turtle populations, as well as other protected resources, including coral. Additionally, in collaboration, they develop and ensure

compliance with fishery regulations, restore and protect habitat, and recover threatened and endangered species in waters off Texas and throughout the Southeast Region. The Southeast Regional Office also fosters sustainable [aquaculture](#) in the region, with two Regional Aquaculture Coordinators that act as a liaison between federal and state agencies to assist in permitting and coordination activities, supporting aquaculture outreach and education, and collaborating with industry, academia and other stakeholders on regional marine aquaculture issues. The Southeast Fisheries Science Center develops the scientific information required for fishery resource conservation; fishery development and utilization; habitat conservation; the protection of marine mammals, sea turtles and other protected species; impact analyses and environmental assessments for management plans and/or international negotiations; and pursues research to answer specific needs in areas of population dynamics, fishery economics, fishery engineering, food science, and fishery biology.

**National Marine Fisheries Service (NMFS) - [Southeast Regional Office](#), Gulf of Mexico [Gulf of Mexico Bay Watershed Education and Training Program](#)**

The NOAA Bay Watershed Education and Training (B-WET) program is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment. The primary delivery of B-WET is through competitive funding that promotes Meaningful Watershed Educational Experiences (MWEEs). B-WET currently serves seven areas of the country: California, Chesapeake Bay, Great Lakes, Gulf of Mexico, Hawai'i, New England, and the Pacific Northwest. The Gulf of Mexico B-WET program recognizes that knowledge and commitment built from firsthand experience, especially in the context of one's community and culture, is essential for achieving environmental stewardship. Gulf of Mexico B-WET responds to regional education and environmental priorities through local implementation of competitive grant funds. Please see the regional funding opportunity for priorities and eligibility details.

**National Marine Fisheries Service (NMFS) - [Southeast Regional Office](#), Ocean Guardian School**

An Ocean Guardian School makes a commitment to the protection and conservation of its local watersheds, the world's ocean, and special ocean areas, like national marine sanctuaries. Funds are provided to schools at \$4,000 per year if the school makes this commitment by proposing and then implementing a school- or community-based conservation project. Once the school has completed its project, the school receives official recognition as a NOAA Ocean Guardian School. To date, the Ocean Guardian School Program has partnered with more than 147 schools and has reached more than 80,400 students.

**National Weather Service - [NEXRAD \(WSR-88D\) Systems](#)**

NEXRAD is used to warn the people of the United States about dangerous weather and its location. This radar technology allows meteorologists to warn the public to take shelter with more notice than ever before. The NEXRAD network provides significant improvements in severe weather and flash flood warnings, air traffic safety, flow control for air traffic, resource protection at military bases, and management of water, agriculture, forest, and snow removal. NEXRAD radar has a range of up to 250 nautical miles, and can provide information about wind speed and direction, as well as the location, size, and shape of precipitation. There are 159 operational NEXRAD radar systems deployed throughout the United States and overseas, of which 12 are in Texas.

**National Weather Service (NWS) - [Automated Surface Observing Systems Stations](#)**

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). ASOS serves as the Nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year observing basic weather

elements, such as cloud cover, precipitation, wind, sea level pressure, and conditions, such as rain, snow, freezing rain, thunderstorms, and fog. There are 60 ASOS stations in Texas.

**National Weather Service (NWS) - [Cooperative Observer Program Sites](#)**

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 10,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are representative of where people live, work and play. The COOP was formally created in 1890 under the NWS Organic Act to provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, required to define the climate of the United States and to help measure long-term climate changes, and to provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS. The data are also used by other federal (including the Department of Homeland Security), state and local entities, as well as private companies (such as the energy and insurance industries). In some cases, the data are used to make billions of dollars' worth of decisions. For example, the energy sector uses COOP data to calculate the Heating and Cooling Degree Days which are used to determine individuals' energy bills monthly. There are 645 COOP sites in Texas.

**National Weather Service (NWS) - [NOAA Weather Radio All Hazards Transmitters](#)**

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as oil spills), and public safety. NWR is provided as a public service by the NWS and includes 1,100 transmitters covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. There are 77 NWR transmitters in Texas.

**National Weather Service (NWS) - [Incident Meteorologists](#)**

The NWS, as mandated by Congress, provides fire weather forecast products and services to the fire and land management community for the protection of life and property, promotion of firefighter safety, and stewardship of America's public wildlands. Since 1928, this effort has included providing critical on-scene support to wildfire managers via specially-trained NWS forecasters called Incident Meteorologists (IMETs). When a fire reaches a large enough size, IMETs are rapidly deployed to the incident and set-up a mobile weather center to provide constant weather updates and forecast briefings to the fire incident commanders. IMETs are very important members of the firefighting team, as changes in the fires are largely due to changes in the weather.

**NOAA Office of Education — [Environmental Literacy Program](#)**

NOAA's Environmental Literacy Program (ELP), administered by the Office of Education, provides grants and in-kind support to advance NOAA's mission through formal (K-12) and informal education. In Texas, ELP supports the Dolphin Challenge in Texas, one of 25 regional competitions of the National Ocean Sciences Bowl (NOSB). The NOSB is an academic competition that engages high school students in learning about ocean sciences and related STEM careers while helping them become knowledgeable citizens and environmental stewards. ELP supports the American Meteorological Society's DataStreme courses for K-12 educators through a grant and in-kind support. These courses use weather, climate, and the ocean as contexts for teaching science and improving understanding about the Earth system.

**Office of Oceanic and Atmospheric Research (OAR) – [Texas Sea Grant College Program](#)**



The National Sea Grant College Program (Sea Grant) is a federal-university partnership administered by NOAA that integrates research, extension outreach, and education. Sea Grant forms a national network of 34 programs in all U.S. coastal and Great Lakes states, Puerto Rico, and Guam. Headquartered in the College of Geosciences at Texas A&M University in College Station, the Texas Sea Grant College Program has a statewide mission to support healthy coastal ecosystems and resilient communities and economies, and to develop the Texas workforce. Its extension agents and specialists are located along the coast from Beaumont to Brownsville, where they conduct outreach, education and technology transfer to a wide range of stakeholders in coastal communities and in the industries that depend upon Texas' marine and coastal environment. Texas Sea Grant also funds practical research by scientists at research institutions around the state to create knowledge, tools, products and services that benefit the economy, the environment and people of Texas. Administrative offices are located in College Station. Extension agents are located in Corpus Christi, Brownsville, Beaumont, LaMarque, Angleton, Houston, Bay City, and San Benito.

**National Marine Fisheries Service (NMFS) - [Restoration Center](#)**

The NOAA Restoration Center, within the Office of Habitat Conservation, works with private and public partners locally and nationwide to increase fisheries productivity by restoring coastal habitat. Our projects support sustainable fisheries, help recover threatened and endangered species, and reverse damage from disasters like oil spills, ship groundings, and severe storms. Since 1992, we have provided more than \$750 million to implement more 3,300 coastal habitat restoration projects. The Restoration Center works with private and public partners in Texas to restore mangrove forests, oyster bars, and submerged aquatic vegetation beds; remove invasive species; improve stormwater management; establish wetland buffers; and restore historic tidal flow to degraded sites. Almost 100 projects have been constructed in the state since 2000, with more than 18,000 acres of fisheries habitat restored and or protected through the Community-based Restoration Program. Through the Damage Assessment Remediation and Restoration Program, the Restoration Center also collaborates with other agencies, industry, and citizens to protect and restore coastal and marine resources in Texas threatened or injured by oil spills, releases of hazardous substances, and vessel groundings. The Restoration Center is deeply engaged in the coordination of projects through RESTORE, Natural Resource Damage Assessment, and the Gulf Environmental Benefit Fund as a result of the *Deepwater Horizon* oil spill. NOAA led the natural resource damage assessment restoration planning for the Deepwater Horizon oil spill. Restoration efforts will focus on 13 restoration types and 7 restoration areas to address a broad range of impacts across the Gulf of Mexico.

**National Marine Fisheries Service (NMFS) - [Deep-Sea Coral Research and Technology Program](#)**

NOAA's Deep Sea Coral Research and Technology Program is the only federal program dedicated to mapping, characterizing, and understanding deep-sea coral ecosystems, and sharing the information needed to conserve these habitats. The Program -- called for in the reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act -- is working with other NOAA offices and external partners to conduct fieldwork to study the distribution, abundance, and diversity of deep sea corals and sponges. Since 2009, more than 42,500 square miles of seafloor have been mapped and surveyed for deep-sea coral habitats from Florida to Maine, in Alaska and the West Coast, and in Hawaii and the Marianas Trench.

**National Marine Fisheries Service (NMFS) - [Cooperation with States Program](#) and [Species Recovery Grants](#)**

Under the authority of section 6 of the Endangered Species Act, the Cooperation with States Program brings states, NMFS, and other partners together to recover threatened and endangered species. A total of 25 U.S. territories and coastal states, including Texas, currently participate in this program. Competitive grants are awarded to states through the Species Recovery Grants to States Program to support management, monitoring, research and outreach efforts for species that spend all or a portion of their life cycle in state waters. The funded work is designed to prevent extinctions or reverse the decline of species, and restore ecosystems and their related socioeconomic benefits.

**National Marine Fisheries Service (NMFS) - [National Marine Mammal Stranding Network](#) and [John H. Prescott Marine Mammal Rescue Assistance Grant Program](#)**

The National Marine Mammal Stranding Network and its trained professionals respond to dead or live marine mammals in distress that are stranded, entangled, out of habitat or otherwise in peril. Our long-standing partnership with the Network provides valuable environmental intelligence, helping NOAA establish links among the health of marine mammals, coastal ecosystems, and coastal communities as well as develop effective conservation programs for marine mammal populations in the wild. There are five stranding network members in the state. NOAA Fisheries funds eligible members of the Stranding Network through the competitive John H. Prescott Marine Mammal Rescue Assistance Grant Program. In FY20, 43 competitive grants were awarded nationwide for a total of \$3.7 million, with two awards totalling \$133,637 going to one recipient in Texas: Texas Marine Mammal Stranding Network.

**National Marine Fisheries Service (NMFS) - [Sea Turtle Salvage and Stranding Network](#)**

The Sea Turtle Stranding and Salvage Network (STSSN) was formally established in 1980 to collect information on and document strandings of marine turtles along the U.S. Gulf of Mexico and Atlantic coasts. The network, which includes federal, state and private partners, encompasses the coastal areas of the eighteen-state region from Maine to Texas, and includes portions of the U.S. Caribbean. Data gathered by the Network helps inform bycatch reduction efforts, monitor factors affecting turtle health, and provide other information needed for sea turtle management and population recovery.

**National Marine Fisheries Service (NMFS) - [Fishery Statistics Office](#)**

Field agents serve as the principal data collection agent for marine fisheries throughout the Southeast United States (NC-TX). They implement and coordinate surveys involving the collection of fishery related data from the public. Responsibilities and functions are to develop, implement, operate, and manage an integrated fishery statistical data acquisition program for research and fishery management. In Texas, field agents are stationed in Galveston, Freeport, and Brownsville.

**National Ocean Service (NOS) - [Operational Forecast of Gulf of Mexico Harmful Algal Blooms](#)**

NOAA and partners provide twice-weekly forecasts on harmful algal blooms (HABs) along the southwest coast of Florida, the east coast of Florida, the Florida panhandle, and Texas. The HAB Forecasting System relies on satellite imagery, real-time and forecast winds, and field samples to provide information on the location, extent, and movement of HABs.

**National Ocean Service (NOS) - [National Water Level Observation Network](#)**

NOS operates eight long-term, continuously operating tide stations in Texas located at Texas Point (in Sabine Pass), Galveston Bay Entrance (North Jetty), Galveston Pier 21, Freeport Entrance Channel, Matagorda Bay Entrance Channel, Rockport, Corpus Christi, and Port Isabel. The NWLON is supplemented by more than 20 tide stations that are part of the Texas Coastal Ocean Observation Network (TCOON). Each station is associated with a set of tidal benchmarks installed in the ground that is used to reference the height of the water levels and helps connect the water level to land.

**National Ocean Service (NOS) - [Navigation Manager](#)**

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in Texas. They help identify the navigational challenges facing marine transportation in Texas and provide NOAA's resources and services that promote safe and efficient navigation. Navigation managers are on call to provide expertise and NOAA navigation response coordination in case of severe coastal weather events or other marine emergencies. The Office of Coast Survey has a navigation manager in Galveston, TX to support mariners and stakeholders in the Western Gulf of Mexico region.

**National Ocean Service (NOS) - [Navigation Response Team](#)**

The Office of Coast Survey (OCS) maintains the nation's nautical charts and publications for U.S. coasts and the Great Lakes. OCS navigation managers are strategically located in U.S. coastal areas to provide regional support to federal and state agencies in order to assist with navigational challenges. The Office of Coast Survey's Navigation Response Branch (NRB) conducts routine and emergency hydrographic surveys; and working with the regional Navigation Managers, navigation response teams (NRT) work around-the-clock after storms to speed the reopening of ports and waterways. During emergency response, the NRTs provide time-sensitive information to the U.S. Coast Guard or port officials, and transmit data to NOAA cartographers for updating Coast Survey's suite of navigational charts. NRT-Stennis 1 is assigned to Stennis, MS and is able to respond within 24 to 48 hours.

**National Ocean Service (NOS) - [Sentinel of the Coast Observing Systems](#)**

Two Sentinels in Texas have replaced water level stations that were destroyed or heavily damaged by recent hurricanes. Elevated atop substantial single pile platforms, these stations are specifically designed to withstand Category 4 Hurricanes. Sentinels ensure data is available when most needed, i.e. storm surge from a hurricane is threatening our coastline and their communities. CO-OPS partnered with Texas A&M Division of Nearshore Research and the U.S. Corps of Engineers to establish these new Sentinels. The new Sentinels are located off of Houston-Galveston Bay and Sabine Pass. An additional 4 Sentinels were installed in partnership with the Texas General Land Office, those stations are at Freeport, Matagorda.

**National Ocean Service (NOS) - [Phytoplankton Monitoring Network](#)**

The Phytoplankton Monitoring Network (PMN) engages volunteers in monitoring marine phytoplankton and HABs. Data collected by PMN volunteers is used to better understand species composition and distribution in coastal and Great Lakes waters, and to identify areas for further research and monitoring. Through this program, we have alerted managers to previously undetected toxins in commercial shellfish beds, and the potential for human Amnesic Shellfish Poisoning and domoic acid toxicity in marine animals. This year PMN is active along the West Coast from CA to AK, in Lake Erie, in the Gulf of Maine, and the Gulf of Mexico.

**National Ocean Service (NOS) - [Coastal and Estuarine Land Conservation Program](#)**

The Coastal and Estuarine Land Conservation Program brings conservation partners together to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical, or aesthetic values. Subject to availability of funding, the program provides state and local governments with matching funds to purchase coastal and estuarine lands or obtain conservation easements for important lands threatened by development. Since 2002, the program has protected more than 110,000 acres of coastal land nationally, including over 16,000 acres protected as in-kind matching contributions. Four projects in Texas have been completed, and these lands are protected in perpetuity. Many of the Texas projects conserve floodplain parks along Buffalo Bayou and Brays Bayou in Houston, which served their natural floodplain function during Hurricane Harvey.

**National Ocean Service (NOS) – [National Coastal Zone Management Program](#)**

Through a unique Federal-state partnership, NOAA's Office for Coastal Management works with the Texas General Land Office to implement the National Coastal Zone Management Program in Texas. NOAA's Office for Coastal Management provides the state coastal management program with financial and technical assistance to further the goals of the Coastal Zone Management Act and ensure our coastal waters and lands are used in a balanced way to support jobs, reduce use conflicts, and sustain natural resources.

**National Ocean Service (NOS) - [Coastal Management Fellowship](#)**

This program matches postgraduate students with state and territory coastal zone programs to work on two-year projects proposed by the state or territory. The Texas Coastal Management Program is hosting a fellow from 2020-2022 who is

implementing water quality management measures along the Texas coast through stakeholder engagement, data analysis and communication, and strategic programmatic review.

**National Ocean Service (NOS) – [Digital Coast](#)**

The Digital Coast is a focused information resource developed to meet the unique needs of coastal communities. Developed and maintained by NOAA's Office for Coastal Management, content comes from hundreds of organizations, including federal, state, and local agencies, plus private sector and non-profit contributors. The Digital Coast website provides not only site-specific coastal data, but also related the tools, training, and information needed to make these data useful for coastal decision makers.

**National Ocean Service (NOS) – [National Coastal Resilience Fund](#)**

The National Coastal Resilience Fund is a partnership effort between NOAA and the National Fish and Wildlife Foundation (NFWF) to restore, increase, and strengthen natural infrastructure to protect coastal communities, while also enhancing habitat for fish and wildlife. In Texas, three projects have been funded, one each year in FY18-FY20.

**National Ocean Service (NOS) and National Marine Fisheries Service (NMFS)- [Gulf of Mexico Alliance](#)**

Staff members from NOAA's Office for Coastal Management and NMFS SERO's' Habitat Conservation Division are active in the Gulf of Mexico Alliance (GOMA). The Gulf of Mexico Alliance is a Regional Ocean Partnership working to sustain the resources of the Gulf of Mexico. Led by the five Gulf States, the broad partner network includes federal agencies, academic organizations, businesses, and other non-profits in the region. GOMA's goal is to significantly increase regional collaboration to enhance the environmental and economic health of the Gulf of Mexico.

**National Ocean Service (NOS) - [OR&R Regional Preparedness Coordinator](#)**

The Regional Preparedness Coordinator is a National Ocean Service (NOS) Disaster Preparedness Program (DPP) employee that resides in a region and serves as a liaison between NOS and its federal, state, and local disaster preparedness and emergency response partners. DPP has a Regional Preparedness Coordinator serving the Gulf of Mexico region – Texas, Louisiana, Mississippi, and Alabama. The DPP supports NOS, and federal, state, and local partners in their ability to assess risks and respond quickly and effectively to natural disasters and pollution events. The DPP provides a breadth of preparedness, response, and recovery services to allow NOS and our partners move through the emergency management cycle efficiently, safely, and effectively including planning, training, exercises, response coordination, continuous improvement, and long-term recovery.

**National Ocean Service (NOS) - OR&R [Scientific Support Coordinator and Regional Resource Coordinator](#)**

NOAA's Office of Response and Restoration (OR&R) brings decades of experience, technical expertise and scientific analysis in response to oil and hazardous chemical spills. Eleven regionally based Scientific Support Coordinators (SSCs) harness the input of a multi-disciplinary team to address issues such as oil slick trajectory forecasting, environmental tradeoffs, best practices, resources at risk, and chemical hazard assessment to reduce risks to coastal habitats and resources. OR&R also helps develop preparedness plans that identify spill response actions with the greatest environmental benefit and trains hundreds of members of the response community each year on the scientific and technical aspects of spills. The SSC provides support from local emergencies to events that draw national attention like Deepwater Horizon. The SSC supporting Texas is based in Houston.

OR&R identifies and quantifies environmental injury caused by releases of oil and hazardous materials. Our network of Regional Resource Coordinators (RRC's) work on multi-disciplinary scientific, economic, and legal teams with the goal of securing the appropriate amount and type of restoration required to restore injured NOAA trust resources and compensate the public for their lost use. We collaborate with NMFS Restoration Center and NOAA General Council

through the Damage Assessment, Remediation, and Restoration Program to ensure the process is efficient, legally defensible and restoration focused. To date, DARRP and co-trustees have recovered \$41.7M for restoration of natural resources injured by oil spill and waste site releases in Texas. Restoration from the Deepwater Horizon oil spill is also ongoing.

**National Ocean Service (NOS) – OR&R [Gulf of Mexico Environmental Response Management Application](#)**

Assessing important spatial information and designing successful restoration projects rely upon interpreting and mapping geographic information, including the location, duration, and impacts from oil spills, other hazardous materials, or debris released into the environment. Gulf of Mexico Environmental Response Management Application (ERMA®) is an online mapping tool that integrates both static and real-time data, such as Environmental Sensitivity Index maps, ship locations, weather, and ocean currents, in a centralized, easy-to-use format for environmental responders and decision makers. Gulf of Mexico ERMA was extensively used during the Deepwater Horizon Oil Spill. ERMA staff continued to work closely with Federal and State agencies for drills, hurricane response, and incidents. Maintained habitat data for sensitive species. Ensured data was kept up-to-date and data collection methods were kept consistent.

**National Ocean Service (NOS) - OR&R [Marine Debris Projects and Partnerships](#)**

The NOAA Marine Debris Program (MDP) leads national and international efforts to research, prevent, and reduce the impacts of marine debris. The program supports marine debris removal, education and outreach, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry. The MDP Gulf of Mexico Regional Coordinator supports coordination efforts with regional stakeholders, provides support to grant-funded projects, tracks progress of projects, and conducts regional marine debris outreach to local audiences. In Texas, the MDP is partnering with the Mission-Aransas National Estuarine Research Reserve to install an educational marine debris display and turtle sculpture to bring attention to the issue of marine debris along the Texas coast, and supporting the Galveston Bay Area Chapter – Texas Master Naturalist to install over 60 monofilament fishing line collection bins for recycling. The Coastal Bend Bays & Estuaries Program is organizing volunteers to systematically and comprehensively locate and remove derelict crab traps in coastal waters from Matagorda Bay to Aransas Bay during the Texas Parks and Wildlife Department's 10-day closure period in February 2021 and February 2022. With support from the MDP, the Texas General Lands Office is working to remove large debris remaining from Hurricane Harvey, including a derelict oil platform, derelict septic tanks, a 184 foot long pier, among other items. The MDP is working with Gulf of Mexico stakeholders through the Gulf of Mexico Alliance to implement the Gulf of Mexico Alliance Regional Action Plan, which provides a road map for strategic progress in making the Gulf of Mexico, its coasts, people, and wildlife free from the impacts of marine debris. The MDP is also currently working with state and local governments, and stakeholders, to maintain and exercise the Texas Marine Debris Emergency Response Guide.

**National Ocean Service (NOS) - [U.S. Integrated Ocean Observing System](#) ([Gulf of Mexico Coastal Ocean Observing System](#))**

The U.S. Integrated Ocean Observing System, or IOOS®, is a federally and regionally coordinated observing system with 17 interagency and 11 regional partners. The System addresses regional and national needs for coastal, ocean, and Great Lakes data and information. This includes gathering and disseminating regional observations; data management; modeling and analysis; education and outreach; and research and development. The Gulf of Mexico Coastal Ocean Observing System (GCOOS), one of the 11 IOOS regional coastal ocean observing systems, seeks to establish a sustained observing system for the Gulf of Mexico that will provide observations and products needed by users in the region for the purposes of detecting and predicting climate variability and consequences, preserving and restoring healthy marine ecosystems, ensuring human health, managing resources, facilitating safe and efficient marine transportation, enhancing national security, and predicting and mitigating against coastal hazards.

**National Ocean Service (NOS) – [NOAA RESTORE Science Program](#)**

The mission of NOAA's RESTORE Science Program is to carry out research, observation, and monitoring to support the long-term sustainability of the Gulf of Mexico ecosystem. The Science Program receives 2.5 percent of the Gulf Coast Restoration Trust Fund, which is funded from penalties associated with the Deepwater Horizon Oil Spill. The Science Program uses stakeholder input to design funding competitions that support teams of resource managers and researchers to work collaboratively to address regional needs. The Science Program has an office at the Stennis Space Center.

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